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IMPACT FUSE WITH DELAY THAT CAN BE TURNED ON AND OFF

[Applicant:]

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The invention pertains to an impact fuse with a delay that can be turned on and off, wherein a hammer mounted orthogonally to the longitudinal axis is used as the switching element, such as is often practiced in the case of double fuses for standard rounds. The aim of the invention is to avoid an unacceptable delay of the ignition when the delay is turned off.

Shown in the drawings is an embodiment example of the invention as a double fuse intended for standard rounds, wherein the hammer also serves to join the time fuse designed as a powder-train fuse with either the shrapnel charge or the grenade charge. Figure 1 shows an axial longitudinal section of the fuse, Figure 2 a partial cutaway view along 2-2 in Figure 1 as seen from the left and with a different position of one part, and Figure 3 a view of the fuse in the direction of the arrow x in Figure 1.

Rotationally mounted in the body (A) of the fuse is a hammer (B), the rotary axis of which intersects the longitudinal axis of the fuse at a right angle. Serving to secure the hammer against displacement is a ring (C), which is screwed into the body of the fuse and encircles an offset part (b¹) of the hammer. The inner end of the hammer (B) is provided with a recess (b²), into which the rear end of the impact fuse (D) containing the primer (d¹) protrudes. The size of the recess (b²) is such that on the inner end of the hammer (B) only a narrow, segment-like strip (b³) remains in place. Situated in the strip (b³) is a delay-action composition (b⁴), which, when the hammer is positioned as in Figure 1, is switched to the path leading from the impact fuse to the grenade charge. In this position of the hammer, a mark (b⁵) on its outer face (Figure 3) aligns with a mark (c¹) provided on the ring (C). The end of the impact fuse (D) protruding into the recess (b²) is so designed that the hammer can be turned out of its position as shown in Figures 1

and 3 to both sides at such an angle that the strip (b^3) (Figure 2) frees the path for the ignition current triggered by the impact fuse. The mark (b^5) of the hammer (B) aligns with a mark (c^2) when the angular position of the hammer is as shown in Figure 2 and aligns with a mark (c^3) on the ring (C) when the angular position of the hammer is symmetrically rotated in relation to the longitudinal axis from the position shown in Figure 1 into the position shown in Figure 2.

The hammer (B) is also equipped with two bore holes (b^6, b^7). The channel (b^6) passes through the offset part (b^1) of the hammer and, when the hammer is in the angular position where the mark (b^5) aligns with the mark (c^3), establishes a connection between the ignition fuse (E) and the shrapnel charge. The channel (b^7) leads obliquely inward from the jacket surface of the offset part (b^1) and alongside the strip (b^3) to open into the recess (b^2). The arrangement is so configured that when the position of the hammer is such that when the mark (b^5) is aligned with the mark (c^2) the channel (b^7) (Figure 2), it establishes a connection of the timing fuse with the ignition channel leading to the grenade charge. When the mark (b^5) is aligned with the mark (c^1), the ignition fuse is blocked from both the shrapnel and the grenade charges.

As explained above, in impact firings, the fuse works with delay when the mark (b^5) is aligned with the mark c^1 (Figure 1) and without delay when the mark (b^3) is aligned with the mark (c^2) or (c^3) (Figure 2). In ignition fuse firings, depending upon whether the mark (e^5) is aligned with the mark (c^3) or the mark (c^2), shrapnel or grenade effect is respectively obtained. If the round prematurely comes into contact with an obstacle in ignition fuse firing, the impact fuse is immediately ignited in both cases.

By virtue of the arrangement of the recess (b^2), it is possible to position the impact fuse so close to the grenade charge that when the delay is switched off there is no unacceptable ignition delay upon impact, such as can easily be the case when there is a greater space between the impact fuse and the grenade charge. Furthermore, as a result of the arrangement of the recess, the fuse has a very compact configuration.

Claims

1. Impact fuse with a delay that can be turned on and off, characterized in that a hammer (B) forming the switching element and mounted orthogonally to the longitudinal axis of the fuse has a recess (b^2) for the part of the impact fuse containing the primer (d^1) and contains in the strip (b^3) formed by the arrangement of the recess (b^2) a delay-action composition (b^4) that can be removed from the path of the ignition current by rotating the hammer (B).

2. Double fuse for standard rounds provided with an impact fuse according to Claim 1, characterized in that the part of the impact fuse containing the primer (d^1) is so designed that the strip (b^3) can assume two different positions in which it lies outside the path of the ignition current and which are symmetrical with respect to the longitudinal axis of the fuse, wherein, in

one position a channel (b⁶) provided in the hammer (B) can form a connection between the timing fuse (E) and the shrapnel charge, and, in the other position, a second channel (b⁷) provided in the hammer (B) can form a connection between the timing fuse (E) and the grenade charge.

3. Double fuse according to Claim 2, characterized in that the channel (b⁷) forming the connection between the timing fuse (E) and the grenade charge runs alongside the strip (b³) and opens into the recess (b²) of the hammer (B).

Fig. 1.

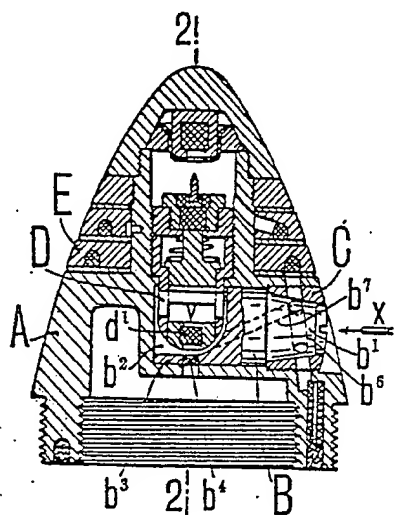


Fig. 2.

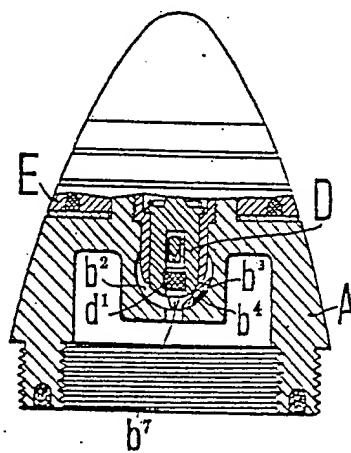


Fig. 3.

